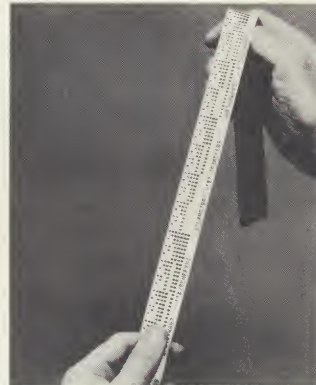
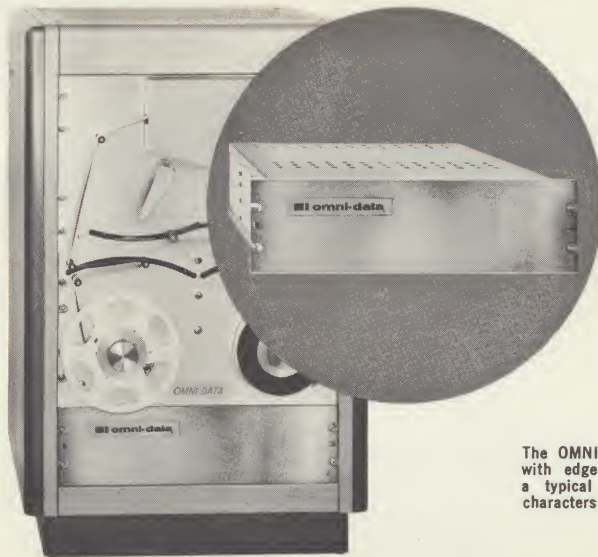
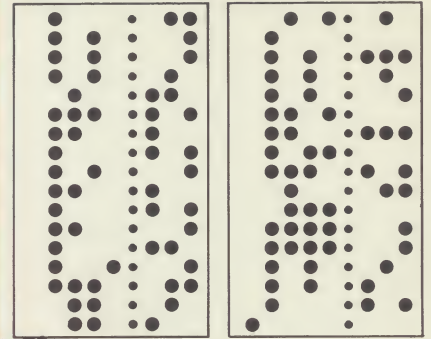


# CHARACTER GENERATORS

EDGE-  
PRINTER  
NO,  
CHARACTER  
GENERATOR.

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The OMNI-DATA Model EI-3 Character Generator as used with edge-interpreting Model ETR-7 Recorder. Above is a typical section of paper tape showing edge-printed characters adjacent to codes.

The OMNI-DATA® Character Generators, Models EI-3 and EI-6, may be used to translate any 6-bit code into a set of up to 64 5x7-matrix characters. The standard character set consists of the alphabet, the digits 0-9, and 14 special characters. An additional 14 special characters are available as an option.

Output from the two models varies only in the manner in which the decoded character is presented to the printing device. Characters from the Model EI-3 have their 7-dot height in the vertical plane, and are printed by pulsing 7 electrode pairs 5 times per character; characters from the Model EI-6 are rotated counterclockwise 90 degrees so that the 7-dot height is in the horizontal plane, and are printed by pulsing 5 electrode pairs 7 times per character.

Incoming information enters on 6 parallel data lines plus a synchronizing line from data-processing systems, communication lines, paper-tape or serial card readers. It may be in any code format, and the alphanumeric equivalent of the code may be selected at the option of the user.

The data rate at which both the EI-3 and the EI-6 operate is up to 1000 characters per second, and the output may be fed into any matrix alphanumeric recording device such as an OMNI-DATA® electrostatic printer, wire matrix printer, or cathode-ray tube. The EI-3 is the standard Character Generator used with the OMNI-DATA ATR-7 and ETR-7 printers; the EI-6 is the companion unit used with the OMNI-DATA ITR-7 Instrumentation Printer.

Both models are completely self-contained modules which may be integrated into any system requiring the translation of data into alphanumeric characters.

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## FEATURES

- Up to 64-character output
- Data speeds up to 1000 characters per second on both models

- Plug-board code selection
- Solid-state electronics

- Compatible with all OMNI-DATA<sup>®</sup> Printers and Recorders, and other matrix display devices

- Designed for standard 19-in. rack mounting

## SPECIFICATION

### CHARACTER SET

The standard set on both the EI-3 and the EI-6 comprises the alphabet, the digits 0 through 9, and the following 14 special characters:  
, ; & ' - / ! ? \$ " : ( ) .

14 additional specials, which can be any character capable of formation by a 5x7 matrix, are available as an option.

### INPUT SIGNALS

1. Code—6 bits per character, 1 bit for synchronization.
2. Level—(a) Character bits:
  - On—minus 6v from any source
  - Off—zero to minus 0.2v, source impedance less than 400 ohms(b) Sync bit:
  - On—minus 6v into 5k ohms
  - Off—zero to minus 0.2v, any source
3. Pulse duration—25 microseconds minimum to 1.5 milliseconds maximum  
Sync-and-data coincidence 25 microseconds minimum

### OUTPUT SIGNALS

1. Code—7 bits pulsed 5 times per character (EI-3), 5 bits pulsed 7 times per character (EI-6), or 35 bits available without sequencing.
2. Level—Minus 12v from 2.7K-ohm source for a bit; Zero to minus 0.2v at 10 ma for no-bit.  
Sync: minus 12v from 180 ohms, minus 4v at 160 ma.
3. Pulse duration—300 microseconds for each 7-bit line, pulsed 5 times for each character; 210 microseconds for each 5-bit line, pulsed 7 times for each character; 15 microseconds  $\pm 20\%$  for character sync. (all pulse duration values for 600 characters per second).

### POWER REQUIREMENT

115v  $\pm 10\%$ , 57-440 cps, 48 watts.  
Requires +12v from OMNI-DATA<sup>®</sup> ATR-7, ETR-7, or ITR-7, or 12v-250ma external supply.

**DIMENSIONS:** 19" W, 5 $\frac{1}{4}$ " H, 18" deep.

**WEIGHT:** 36 pounds.

Will operate in any free-convection ambient up to 50°C.

SPECIFICATION, THROUGH PRODUCT IMPROVEMENT, SUBJECT TO CHANGE WITHOUT NOTICE.

566-5M

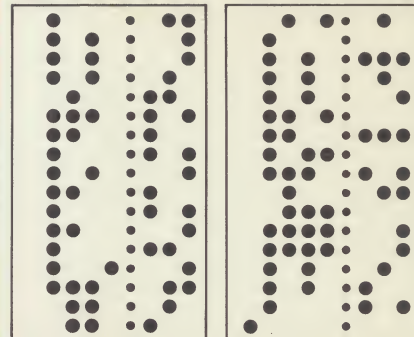
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PRINTER-READER BUSINESS SECTION  
511 NORTH BROAD STREET, PHILADELPHIA, PA. 19123 (215) 925-4343



# COMMUNICATION TERMINAL

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**The OMNI-DATA Model 2400** Communication Terminal is a serial-by-bit Send/Receive Paper Tape system designed for use with half duplex communication lines at selectable speeds up to 2400 bits per second. The system is multi-purpose in that it may be used with teletype, telephone, or private wire service and has provision for both voltage output and 20 milliamperes or 65 milliamperes current output. The basic unit is capable of sending and receiving 5 level Baudot code, with the sprocket location selectable in the third or fourth "position." When receiving this code, the unit will print the alphanumeric equivalent of the code simultaneously, and in line with the data bits. Logic circuitry permits recognition of shift codes so that the correct character equivalent is printed with consideration for keyboard shift. The edge interpretation feature eliminates, in many cases, the need for a separate message print-out, which is normally obtained either on-line or off-line from the transmission itself.

**The OMNI-DATA Communication Terminal** is comprised of a Photoelectric Paper Tape Reader, capable of reading either perforated or OMNI-DATA printed tape and an Electrostatic Paper Tape Recorder plus all related electronics to permit operation with high speed modems. The Send/Receive portions of the terminal are modular in design and may be used alone or together at each end of the communication line. Each is housed in its own cabinet and is provided with the necessary power supplies.

**The "sending" portion** is an OMNI-DATA PTR-80500 plus a Parallel-to-Serial converter which accepts 5 level code and converts it to a 7 equal element code for transmission at 150, 300, 600, 1200, and 2400 bits per second, corresponding respectively to about 21, 42, 85, 171 and 342 characters per second. Each of the five speeds is selectable by dial control and is controlled by an internal clock in the transmitting converter. No gear, belt or pulley changes are required when changing from one speed to another, nor is a system clock required at any speed.

Since the Reader itself utilizes the field proven technique of reflected light reading, virtually any type, color or transparency of perforated tape may be read, as may the printed tape produced by the receiving unit.

**The "receiving" portion** of the system is comprised of an ETR-70500 Electrostatic Recorder, an EI-3 Character Generator and a Serial-to-Parallel Converter which accepts the transmitted 7 element code and converts it to a 5 level Baudot. The output medium from the ETR-7 is electrostatically produced coded tape. Black marks, in the same code format as punched holes, are printed on white tape  $\frac{7}{8}$ " or 1" in width. Alphanumeric characters are printed directly beneath the corresponding code, thus providing a medium which is readable by humans and machines. As with the "send" portion any of the five operating speeds may be selected by dial control in the receiving unit.

The OMNI-DATA RS-500 Reelers, which are used with both the Reader and the Recorder, are standard unidirectional tape handlers, with high speed rewind. They are designed to operate with reels up to 10 $\frac{1}{2}$ " in diameter at all operating speeds. Controlled tape handling permits the use of even the most fragile tapes without danger of tearing or spilling in both the forward and rewind modes.

The combination of the four field proven components—Reader, Recorder, Character Generator and Reelers—plus the required converters, has resulted in a Communication Terminal which is uniquely flexible in application and which is unsurpassed in performance, reliability and design.

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